



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------|------------------|
| 10/825,819 | 04/16/2004 | Young-Hun Joo | 5000-1-590 | 8701 |
| 33942 | 7590 | 11/15/2007 | | |
| CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652 | | | EXAMINER PHAN, HANH | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2613 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 11/15/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,819

Applicant(s)

JOO ET AL.

Examiner

Hanh Phan

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 10 is/are rejected.
- 7) ☒ Claim(s) 2-9 and 11-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 08/28/2007.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art Figure 1 in view of Combs et al (US Patent No. 6,751,417).

Regarding claims 1 and 10, Prior Art Figure 1 teaches a fiber to the home (FTTH) system for convergence of digital broadcast and communication signals through a switched broadcast, comprising:

an optical line terminal (OLT) (i.e., OLT 100, Prior Art Fig. 1) for receiving a first predetermined number of broadcast signals (i.e., digital broadcasting 101) and an Ethernet signal (i.e., internet/VOD 102), converting (i.e., optical transmitter 104 and transmitter 107) the received broadcast signals and Ethernet signal into a plurality of converted optical signals, combining (i.e., optical coupler 110) the converted optical signals into converged optical signals, and transmitting the converged optical signals by an optical wavelength division multiplexing method;

an optical network unit (ONU)(i.e., ONT 1, Prior Art Fig. 1) for receiving and classifying (i.e., Wavelength division demultiplexer 112) the converged optical signals

transmitted from the OLT back into the first predetermined number of broadcast signals and the Ethernet signal, converting the classified into signals into electrical signals, and the ONU transmits the first predetermined number of broadcast signals to each subscriber and switching the Ethernet signal to be transmitted according to each SIU and transmitting the switched Ethernet signals to the SIU; and

an SIU (Prior Art Fig. 1) for receiving the first predetermined number of broadcast signals transmitted from the ONU, transmitting the predetermined number of broadcast signals and the Ethernet signal to be transmitted to a subscriber to a corresponding subscriber terminal.

Prior Art Figure 1 differs from claims 1 and 10 in that it fails to teach the ONU switching a second predetermined number of broadcast signals from the first predetermined number of broadcast signals according to each subscriber interface unit (SIU) by a channel selection information contained in upstream Ethernet information and an SIU for converting the second predetermined number of broadcast signals transmitted from the ONU into electrical signals and transmitting the upstream Ethernet information including the upstream Ethernet information for the broadcasting signal to the ONU. Combs et al, from the same field of endeavor likewise teaches an optical communication system (Figures 1 and 4). Combs further teaches a MUX node switching a second predetermined number of signals from the first predetermined number of signals according to each subscriber interface unit and a mini fiber node for converting the second predetermined number of signals transmitted from the MUX node into electrical signals and transmitting the upstream information to the MUX node (i.e., Figs.

1 and 4, col. 3, lines 35-67, col. 4, lines 1-67, col. 6, lines 53-67, col. 7, lines 1-67 and col. 8, lines 1-4). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the MUX node switching a second predetermined number of signals from the first predetermined number of signals according to each subscriber interface unit and a mini fiber node for converting the second predetermined number of signals transmitted from the MUX node into electrical signals and transmitting the upstream information to the MUX node as taught by Combs et al in the system of the Prior Art Figure 1. One of ordinary skill in the art would have been motivated to do this since allowing preventing delivery of unnecessary signals to a user terminal, improving transmission efficiency and reducing the cost of the whole system.

Allowable Subject Matter

4. Claims 2-9 and 11-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the objection.

Response to Arguments

5. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Application/Control Number:
10/825,819
Art Unit: 2613

Page 5

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


HANH PHAN
PRIMARY EXAMINER